

REMARKS

Claims 1-9, 16-19, 23, 24, 26, 27, 29-34, 36-38, and 40-43 were pending in the present application. By this response, claims 1, 8, 24, 31, and 36 have been amended, claims 3-4, 16-18, and 34 have been cancelled, and new claims 65-77 have been added. As a result, claims 1, 2, 5-9, 19, 23, 24, 26, 27, 29-33, 36-38, 40-43, and 65-77 are now pending.

Without acceding to any of the grounds for rejection set forth in the Office Action, Applicants respond as follows:

I. Claim Rejections under 35 U.S.C. §103

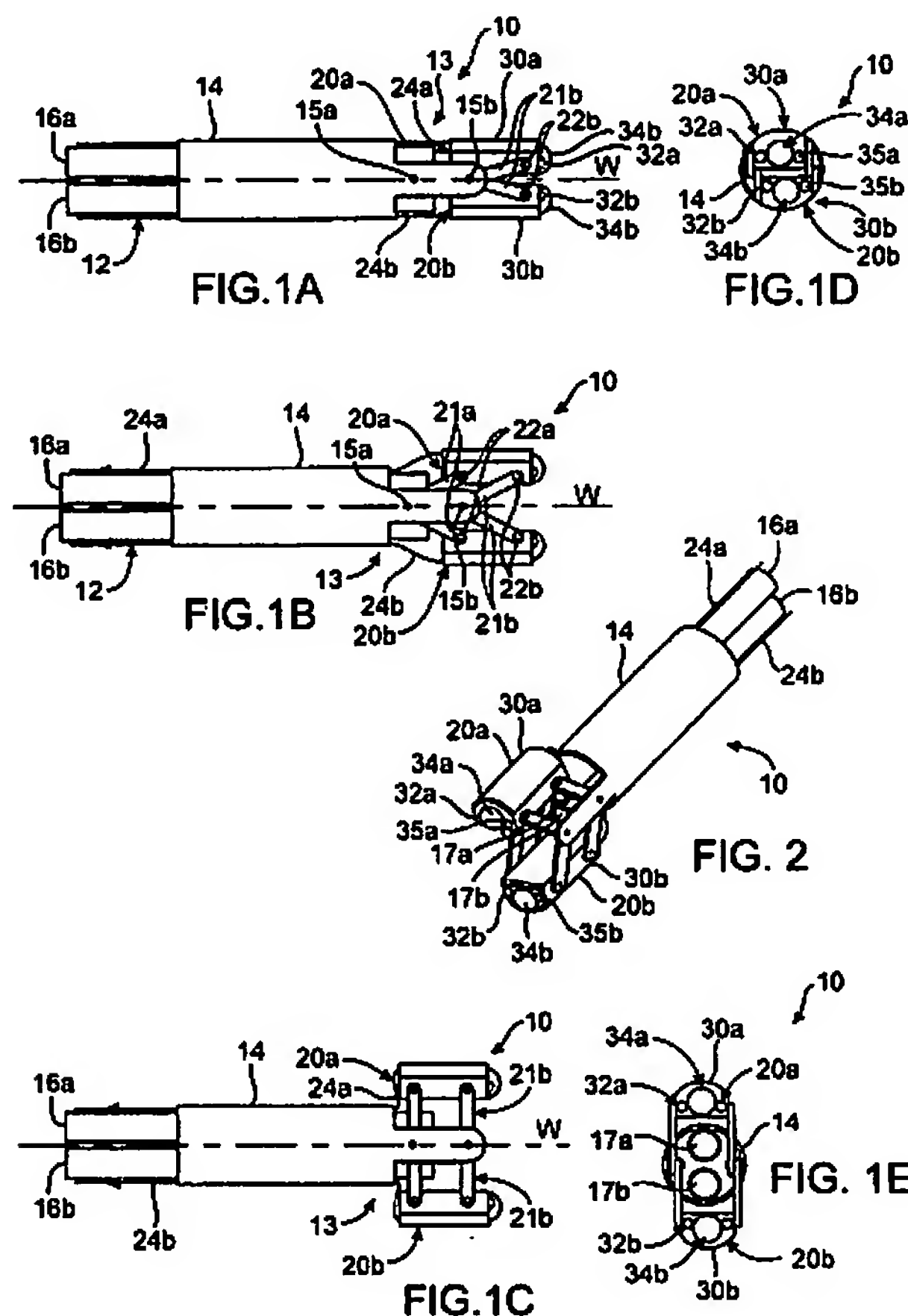
All pending claims were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Khalili (U.S. Patent Pub. No. 2005/0096502) in view of Zehel (U.S. Patent No. 5,251,611). For the reasons set forth below, Applicants respectfully traverse these rejections.

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a) in view of a reference or combination of references, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art references(s) must teach or suggest all of the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Finally, in determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103(a) is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.

A. Claim 1 and its Dependent Claims

Claim 1 has been amended to recite that the apparatus includes an elongate body, at least two working lumens, and at least one articulating element pivotally connected to the

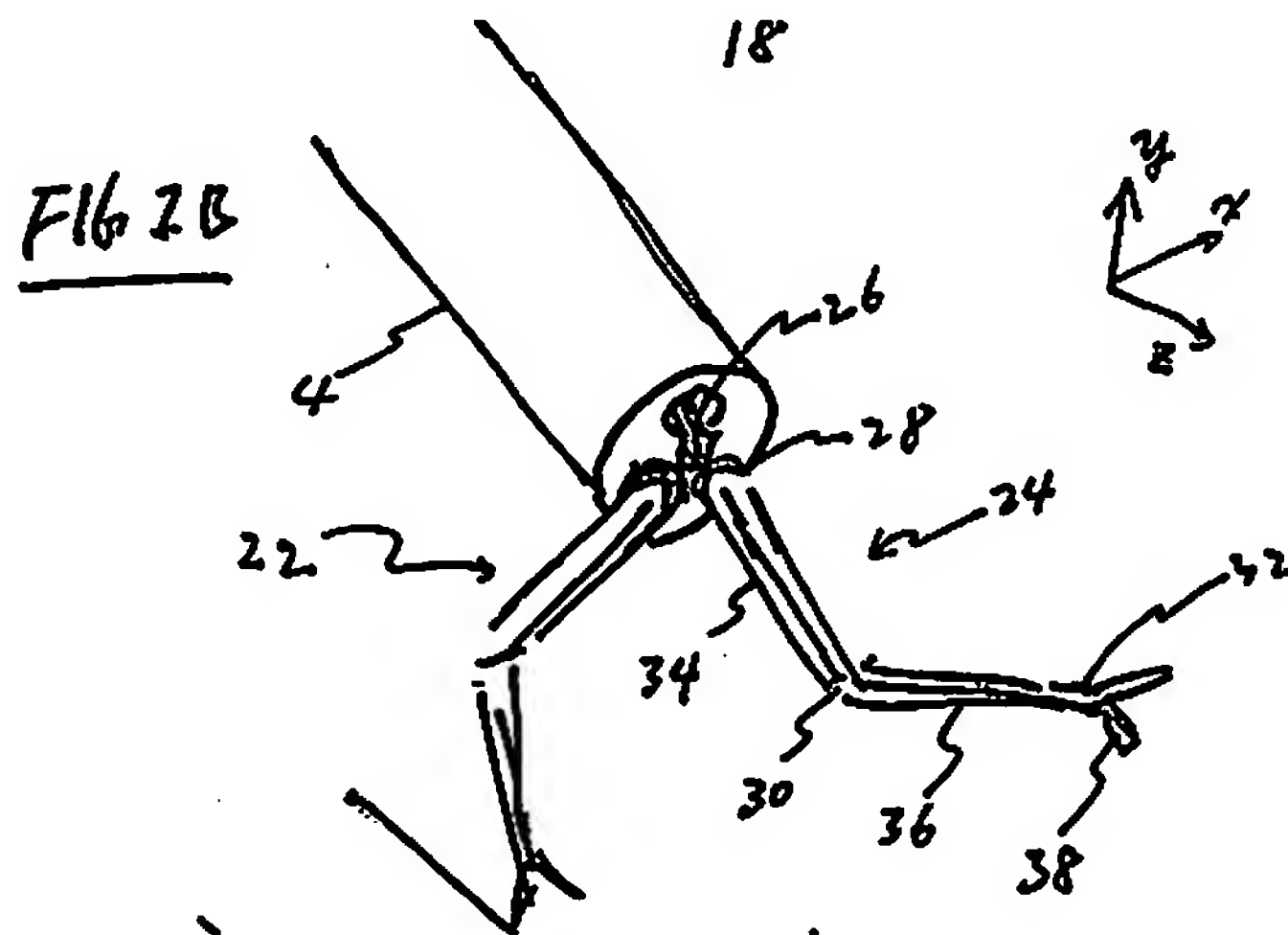
elongate body by a linkage member “pivotally connected to a first hinge on the articulating element and a second hinge on the elongate body.” The claim has also been amended to recite that the articulating element is configured to articulate from an in-line position to an off-axis position, and that “a distal opening of at least one of the working lumens is substantially covered by the articulating element in the in-line position and is substantially uncovered by the articulating element in the off-axis position.” These features are supported in the specification at several locations including, for example, at paragraphs 0027 and 0032 and at FIGS. 1A-E and 2, which are reproduced below:



For example, as stated in the specification (at paragraph 0032):

Articulating elements 20 off-axis and out of alignment with working axis W exposes distal openings 17 of lumens 16. Once exposed, lumens 16 may be used for passage of diagnostic or therapeutic tools from the proximal to the distal region of apparatus 10, as well as to draw suction, inject fluids, etc. By providing apparatus 10 with elements that articulate, lumens 16 may be provided with larger cross-sectional profiles than otherwise would be possible for a given delivery profile, as compared to apparatus having needed elements that cannot articulate.

The claim features added by the foregoing amendments reflect a significant difference between the device described and claimed in the present application and the device described in the Khalili publication and the Zehel patent. In particular, the Khalili robotic surgical device includes an elongated body 4 having robotic arms 22, 24, 26 that are permanently housed within chambers 12, 14, 16 at the distal portion of the elongated body 4. (Khalili, paragraph 0049, and see Figure 1B reproduced below). The robotic arms include a rear-arm 34 and forearm 36 connected by a shoulder



joint 28 and an elbow joint 30, and a tool 38 connected to the forearm by a wrist joint 32. (Khalili, paragraph 0051). But nowhere does the Khalili publication describe an articulating element that is pivotally connected to the elongate body by a linkage member that is pivotally connected to a first hinge on the articulating element and a second hinge on the elongate body. The Office Action states that the tool 38 described in the Khalili publication is pivotally connected to the elongate body 4. Applicant respectfully disagrees with this characterization but, even if true, there is no teaching of a linkage member that is pivotally connected to a first hinge on the tool 38 and a second hinge on the elongate body 4. Nor does Khalili describe a device in which a distal opening of at least one of the working lumens is substantially covered by the articulating element in the in-line position and is substantially uncovered by the articulating element in the off-axis position. In its rejection of claim 16, the Office Action states that “off-axis articulation of the articulating element is configured to expose a distal opening of the working lumen (see Fig. 1b).” Once again, Applicant disagrees with this characterization insofar as the chambers 12, 14, 16 of the Khalili device are at all times occupied by the robotic arms.

The Zehel patent does not correct the deficiencies of the Khalili publication. Specifically, the Zehel patent does not teach or suggest “an articulating element that is pivotally connected to the elongate body by a linkage member that is pivotaly connected to a first hinge on the articulating element and a second hinge on the elongate body,” or a device in which “a distal opening of at least one of the working lumens is substantially covered by the articulating element in the in-line position and is substantially uncovered by the articulating element in the off-axis position.”

Accordingly, the combination of Khalili and Zehel fails to support a prima facie case of obviousness of claim 1. Claims 2, 5-9, 19, 23, 24, 26, 27, 29-30 each depend from claim 1, and each is patentable over the combination of Khalili and Zehel for the same reasons. Applicants request withdrawal of the rejections of all of the foregoing claims.

B. Claim 31 and its Dependent Claims

Claim 31 has been amended to delete the “tensioning a tensioning wire” step, and to add limitations to recite: (a) that moving the articulatable element has a result of “thereby at least substantially exposing a distal opening of a working lumen provided in the elongate body,” and (b) that passing a diagnostic or therapeutic tool through the working lumen occurs “while the articulatable element is maintained in the out-of-line position.” These features are supported in the specification at several locations including, for example, at paragraphs 0027 and 0032 and at FIGS. 1A-E and 2, which are reproduced above.

As discussed above in relation to claim 1, the Khalili device includes robotic arms 22, 24, 26 that are at all times housed in the chambers 12, 14, 16. As a result, the Khalili device is incapable of performing either of the steps of “substantially exposing a distal opening of a working lumen provided in the elongate body” or of passing a diagnostic or therapeutic tool through the working lumen “while the articulatable element is maintained in the out-of-line position.”

As also discussed above, the Zehel patent does not correct the deficiencies of the Khalili publication.

Accordingly, the combination of Khalili and Zehel fails to support a prima facie case of obviousness of claim 31. Claims 32-33, 36-38, and 40-43 each depend from claim 31, and each is patentable over the combination of Khalili and Zehel for the same reasons. Applicants request withdrawal of the rejections of all of the foregoing claims.

II. New Claims 65-77

New claim 65 essentially tracks amended claim 1 with the exception that claim 65 does not require that the elongate body comprises “a plurality of links and at least one tensioning wire whereby said elongate body has a first, substantially flexible state and a second, substantially rigid state.” Claim 65 is patentable over the Khalili publication for the reasons set forth above in relation to claim 1. Claims 66-77 depend from claim 65, and are patentable for those reasons as well.

Accordingly, Applicants request withdrawal of the rejections of the pending claims, and issuance of a notice of allowance.

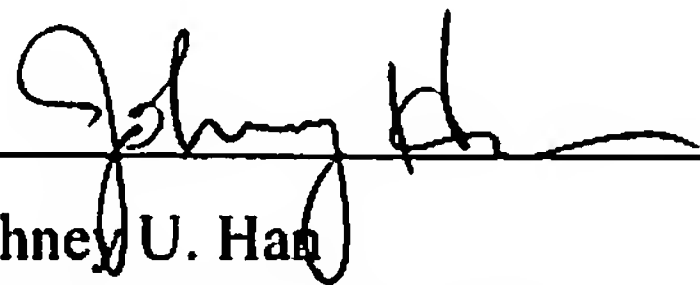
Amendment and/or cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. Similarly, unless explicitly stated, nothing contained or not contained in this paper should be construed as an assent to any of the Examiner’s stated grounds for rejecting the claims, including specifically the Examiner’s characterization of the teachings of the cited art and the Examiner’s contentions that any combinations of cited art would have been obvious. Rather, the present amendments to the claims and Remarks are an attempt to expedite allowance and issuance of the currently pending claims. No new matter has been added.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejections and pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the appropriate fee and/or petition is not filed herewith and the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with this filing to Deposit Account No. 50-3973 referencing Attorney Docket No. USGINZ00700. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,



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